

U.S.S.N. 10/604,498

7

15-XT-6176 (GEMS-A 0130 PA)

**REMARKS**

In the Final Office Action dated November 17, 2004, claims 1-25 are pending. Claims 1, 10, 16, and 18 have been amended. Claims 1, 16, and 18 are independent claims from which the remaining claims 2-15, 19-20, and 22-25 depend therefrom. Applicants recognize the allowability of claims 10, 13, and 20 if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response thereto, Applicants have rewritten claim 10 in independent form to include all of the limitations of previously provided claim 1. Thus, Applicants submit that claims 10 and 13 are now in a condition for allowance. Claim 26 is newly added.

Claims 1, 6-9, 12, and 14-15 stand rejected under 35 U.S.C. 102(e) as being anticipated by Marioni (USPN 6,538,353).

Marioni discloses a permanent magnet electric motor for circulation pumps of heating systems. Applicants submit that Marioni is nonanalogous art and that Marioni fails to teach or suggest an x-ray tube rotor. Referring to MPEP 2141.01(a), while the Patent Office classification of references and cross-references in the official search notes are some evidence of "nonanalogy" or "analogy" respectively, the court has found "the similarities and differences in structure and function of the inventions to carry far greater weight." *In re Ellis*, 476 F.2d 1370, 1372, 177USPQ526, 527 (CCPA 1973). Marioni would not have logically commended itself to an inventor's attention in considering the problems solved by the assembly of claim 1. In developing an x-ray tube rotor, one would clearly not look to an electric motor of a heating system circulation pump. Although Marioni discloses a rotor, the rotor is for an electric motor of a heating system not for an x-ray tube. The operating environment and application of an x-ray tube rotor are completely different than that of a heating system circulation pump. The rotor of Marioni is used to provide circulation of components within a centrifugal pump and is immersed in a fluid in which pump operation is not significantly affected by particulate generation. An x-ray tube rotor is used to

U.S.S.N. 10/604,498

8

15-XT-6176 (GEMS-A 0130 PA)

provide rotation of an x-ray tube anode and often operates in a vacuum chamber in which particulate generation is undesirable. The rotor of Marioni would not have logically commended itself to the Applicants' attention in solving the problems associated with particulate generation due to rust and flaking of an x-ray tube rotor within an x-ray tube. Marioni would not be reasonably pertinent to the particular problems solved by the assembly of claim 1. Note also that the Patent Office Classifications for the system of Marioni are not the same as that for the present invention, which further implies that Marioni is nonanalogous art.

Also, Marioni fails to teach or suggest an x-ray tube rotor produced at least partially of a non-corrosive material. In Marioni it is stated that the rotor is formed of corrosive materials and no suggestion therein is provided otherwise. Thus, not only is Marioni nonanalogous art it also fails to teach or suggest each and every element of claim 1. In order for a reference to anticipate a claim the reference must teach or suggest each and every element of that claim, see MPEP 2131 and *Verdegrad Bros. V. Union Oil Co. of California*, 814 F.2d 628. Therefore, claim 1 is novel, nonobvious, and is in a condition for allowance. Since claims 6-9, 12, and 14-15 depend from claim 1 they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Claims 1, 6-9, 12, and 14-16 stand rejected under 35 U.S.C. 102(b) as being anticipated by Klostermann (USPN 5,056,126).

Amended claim 1 recites the limitations of an x-ray tube rotor that includes a non-sprayed-on non-corrosive sleeve that is directly coupled to, at least partially covers, and is rotational with a rotor core. Claim 16 recites similar limitations. The sleeve is such to prevent the generation of particulate within an x-ray tube from an x-ray tube rotor.

Klostermann '126 discloses an x-ray tube having a squirrel cage rotor 72, which resides within a rotor housing 96, and is formed in a conventional manner from magnetic steel and copper. The rotor housing 96 is a vacuum tight enclosure, which is in communication with the vacuum envelope 41 of the x-ray

U.S.S.N. 10/604,498

9

15-XT-6176 (GEMS-A 0130 PA)

tube. The rotor housing 96 consists of a rotor sleeve 97 with a thin wall portion 97a. In other words, the rotor sleeve 97 is in the form of a housing, which encases the rotor 72. The rotor 72 freely rotates on a bearing assembly 81 within the rotor sleeve 97, which is stationary.

Applicants submit that Klostermann '126 fails to teach or suggest the use of an x-ray tube rotor that includes a non-sprayed-on non-corrosive sleeve that is directly coupled to, at least partially covers, and is rotational with a rotor core. The rotor sleeve 97 of Klostermann '126 is not in contact nor does it rotate with the rotor 72. There is a gap between the rotor 72 and the rotor sleeve 97, see Figure 5 of Klostermann '126. The rotor 72 of Klostermann '126 may generate particulate, which may be transferred into the vacuum envelope 41 due to the communication therewith and the lack of direct covering of the rotor 72 by the sleeve 97.

Also, the Final Office Action states that Klostermann '126 discloses a sleeve 97 of stainless steel having about 12% chromium. Applicants, respectfully, traverse and submit that nowhere in Klostermann '126 is it stated that the rotor sleeve 97 is formed of stainless steel or formed of stainless steel having about 12% chromium. The material content of the rotor sleeve 97 is simply not mentioned.

In addition, the Final Office Action states that Klostermann '126 discloses a rotor core made at least partially of stainless steel, and in so doing refers to the support sleeve 71. Applicants submit that the support sleeve 71 is not part of the rotor 72, but is rather mounted on and supports the rotor 72. The rotor 72 is held in place on the support sleeve 71 via a plate 73. This is stated in col. 6, lines 46-49 of Klostermann '126. Thus, the support sleeve 71 is not a rotor core. However, for argument sake, even if one designates the support sleeve 71 to be a rotor core, the support sleeve 71 does not include a slot and a bar as recited in claims 1 and 16. Also, nowhere in Klostermann '126 is it stated that the rotor 72 is formed of stainless steel, but rather it is only stated that the rotor 72 is formed of magnetic steel and copper. This is also admitted to on page 4 of the Final Office Action.

U.S.S.N. 10/604,498

10

15-X-6176 (GEMS-A 0130 PA)

Thus, Klostermann '126 fails to teach or suggest each and every element of claims 1 and 16, therefore claims 1 and 16 and claims 6-9, 12, and 14-16, which depend therefrom, are novel, nonobvious, and are in a condition for allowance.

Claims 5 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Marioni. Applicants submit that since claims 5 and 11 depend from claim 1 that they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Claims 2-4, 18, 19, and 22-25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Klostermann '126 in view of Klostermann (USPN 5,185,774).

Applicants submit that since claims 2-4 depend from claim 1 that they to are also novel, nonobvious, and are in a condition for allowance for at least the same reasons as put forth above with respect to claim 1.

With respect to claim 18, as stated above Klostermann '126 fails to teach or suggest a sleeve formed directly over and in contact with a rotor core, as recited in claim 18. The rotor sleeve 97 of Klostermann '126 is not in contact with the rotor 72 nor is it formed directly over the rotor 72. The rotor sleeve 97 is separate from the rotor 72 and is used as a housing for the rotor 72 to rotate therein.

Like Klostermann '126, Klostermann '774 also fails to teach or suggest a rotor assembly having a sleeve formed directly over and in contact with a rotor core. Referring to MPEP 706.02(j) and 2143, to establish a *prima facie* case of obviousness the prior art references must teach or suggest all the claim limitations. Since, both Klostermann '126 and Klostermann '774 fail to teach or suggest each and every element of claim 18, claim 18 is novel, nonobvious, and is in a condition for allowance. Also, since claims 19-20 and 22-25 depend from claim 18, they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

With respect to newly added claim 26, none of the relied upon references teach or suggest an imaging X-ray tube rotor assembly having a non-sprayed-on non-corrosive sleeve that includes an oxidized exterior surface generated by a

U.S.S.N. 10/604,498

11

15-XI-6176 (GEMS-A 0130 PA)

greening effect. The "greening effect" refers to the change in an external surface of the sleeve to a dark green color via oxidation thereof by high temperature immersing or baking. The greening effect provides a desired emissivity and prevents the rubbing or flaking off of the exterior surface. Thus, claim 26 in addition to the novel limitations provided in claim 1 includes further limitations that distinguish it from the relied upon art.

Referring to MPEP 706.07, present practice does not sanction hasty and ill-considered final rejections. The applicant who is seeking to define his or her invention in claims that will give him or her the patent protection to which he or she is justly entitled should receive the cooperation of the Examiner to that end, and not to be prematurely cut off in the prosecution of his or her application. Applicants submit that with the amendments provided in the previous Response and herein that the Applicants have sought to define their invention as justly entitled and that the Applicant has not dallied or resorted to technical or other obvious subterfuges in order to keep the application pending. Thus, Applicants submit that although he believes the present application to be in a condition for allowance, if the Examiner feels otherwise the present application should be currently under a non-final rejection.

U.S.S.N. 10/604,498

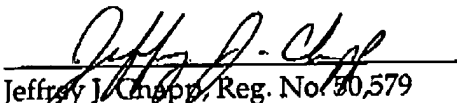
12

15-XI-6176 (GEMS-A 0130 PA)

In light of the amendments and remarks, Applicants submit that all of the objections and rejections are now overcome. The Applicants have added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,

ARTZ & ARTZ P.C.

  
Jeffrey I. Chapp, Reg. No. 30,579  
28333 Telegraph Road, Suite 250  
Southfield, MI 48034  
(248) 223-9500

Dated: December 14, 2004